

Work Order ID 59030

Tuesday, May 25, 2010 9:21:05 AM



Page 1

Item ID: D2580-1

Accept



Setup Start



Revision ID:

Item Name: 205 Skidtube bent detail

Stop



Start Date: 5/25/2010 Start Qty: 2.00



Cust Item ID:

Required Date: 5/31/2010 Req'd Qty: 2.00



Customer:

Reference:

Approvals:

Process Plan:

[Signature]

Date: 10-3-25

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start



Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D2580

Rev D

100

0.00



HandFinish

Memo

0.00

Hand Finishing

1- Inspect mat'l D2500-1-190 for damage.

2- Chemical Conversion Coat as per QSI 005 4.1

101

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

[Handwritten: 2 - - AW 10-3-20]

[Handwritten: 2 2 MD 10-05-27]

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Page 2

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Customer:

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

110

0.00



Skidtubes

Memo

0.00

Skidtubes

1-Drill pilot holes using drill jig DT 8149 (Do not use cutting fluid)

2-Open holes to 0.500" as per Dwg D2580 without cutting fluid

3-Deburr and blow out all chips from inside of tube

4-Bond web in place per QSI 015.

□□

A/R Sikaflex-291 batch: 113433 □□□

Sikaflex expire date: 10-11-20

Start time and date: 1:00 bond for 12hrs

2 - 10-5-27

130



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

DP 10-5-28 (2)

W/O:		WORK ORDER CHANGES					
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Work Order ID 59030

Tuesday, May 25, 2010 9:21:05 AM



Page 3

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Setup Start



Revision ID:

Item Name: 205 Skidtube bent detail

Stop



Start Date: 5/25/2010 Start Qty: 2.00



Cust Item ID:

Required Date: 5/31/2010 Req'd Qty: 2.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

140

Identify as per dwg & Stock Location:

46

0.00



Packaging

Memo

0.00

Packaging

10-5-28 (2)

150

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10/06/01 HJ

CL1015128

W/O:		WORK ORDER CHANGES					
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NOTE: Date & initial all entries

Picklist Print

Tuesday, May 25, 2010 9:21:10 AM

Work Order ID: 59030



Parent Item: D2580-1



Parent Item Name: 205 Skidtube bent detail

Start Date: 5/25/2010

Required Date: 5/31/2010

Comments: IPP B01.11.08 Revised Step 9, 10, 12, and 13 SM

Start Qty: 2.00

Required Qty: 2.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2500-1-190		Manufactured	No				Each	38.0000	1	2			



Ext'n -1' Beam Tube 4"



Location

Loc Qty

Loc Code

LG

38

38

52319

110

Each

0.0000

1

2

D2596



Web, 205 Skidtube

Manufactured

No



AWM 10-5-27 (27)
B-58890 AWM 10-5-27

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NOTE: Date & initial all entries

DART

DESIGN #	DRAWN BY RH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D2580	REV. D SHEET 1 OF 3
DATE 07.02.27		TITLE 205 SKIDTUBE ASSEMBLY	SCALE NTS
A	96.09.16	NEW ISSUE	
B	96.12.02	AS MANUFACTURED	
C	98.08.26	REDRAWN, INCLUDED DEO 9094/9097	
D	07.02.27	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183	

RELEASED
07.06.28 #

QTY -041	QTY -045	Part Number	Description
X		D2580-041	SKIDTUBE ASSEMBLY
	X	D2580-045	SKIDTUBE ASSEMBLY
1	1	D2500-1-190	EXTRUSION
1	1	D2576-3	STEP
20	24	D2579	CROSS BOLT SPACER
16	16	D2594-1	PLUG
16	16	D2594-3	O-RING
1	1	D2596	205 WEB
1	1	D2855	AFT CAP
1	1	D3564-5	WEARSHOE
1	1	D3564-9	WEARSHOE
1	1	D3564-11	WEARSHOE
1	1	D3564-13	WEARSHOE
2	2	D3566-1	GASKET
1	1	D3566-5	GASKET
1	1	D3566-13	GASKET
50	50	ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
50	50	AN3C4A	BOLT
2	2	AN3-5A	BOLT
50	50	AN960C10L	WASHER
2	2	AN960JD10L	WASHER

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 39030

Ref 5-26

GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL $\varnothing 0.297$ HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/-291.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:
SEE NOTES ON
PAGE 2 FOR D2580-041 AND
PAGE 3 FOR D2580-045
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

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RELEASED
07-06-28

GRIND FLUSH (4 PLACES)

GRIND FLUSH

D2576-3 STEP

GRIND FLUSH

LOCATION RIDGE ON UNDERSIDE OF D2576

$\frac{1}{16}$

Ø0.208

DRILL PRIOR TO D2855 CAP
INSTALLATION (2 PLACES)

AN3-5A BOLT (1)

AN960JD10L WASHER (1)
(2 PLACES)

D2855 CAP

0.40

SEAL WITH
SIKAFLEX-241/-291

D2579 SPACER

D2596 WEB (REF)

ALS7-1032-130 (REF)
(TYP 50 PLACES)

5

AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR #0.508 HOLES ONLY:

1. CHAMFER HOLE 0.050 x 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C-BORE D2579 SPACER TO #0.437 x 1.00 DEEP

37.50

DISTANCE TO AFT END OF D2598 WEB

3 7

1.750

1.750

0.508 (TYP.) (40 PLACES)

REFER TO DETAIL A

8.750

17.375

26.000

34.188

57.313 (REF)

7 EQUAL SPACES 8.188 PITCH

38.0

91.500

190.0 (D2500-1)

REFER TO DETAIL A

[illegible]

WELD AS PER DETAIL B

BLACK ANTI-SKID TO 0.5 ABOVE LOCATION RIDGE

BLACK ANTI-SKID TOP OF STEP TO 0.5 ABOVE BOTTOM EDGE

0.5

1.5

1.5

D

P P P P P P P

D

8

1.5

1.5

1.5

REFER TO DETAIL C

D3566-1

D3566-5

D3566-1

D3566-13

D3564-11

D3564-5

D3564-9

D3564-13

AN3C4A BOLT (1)

AN96OC10L WASHER (1)

(50 PLACES)

SECTION	QUANTITY

i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB POWDER COAT ASSEMBLY GLOSS WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3 BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

DESIGN	<i>[Signature]</i>	DRAWN BY	<i>PH</i>
CHECKED	<i>[Signature]</i>	APPROVED	<i>[Signature]</i>
DATE			
07.02.27			

DART AEROSPACE LTD.
MAYKESEBURY, ONTARIO, CANADA

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DRAWING NO.	D2580
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REV. 0

SHEET 2 OF 3

TITLE	205 SKIDTUBE ASSEMBLY
-------	-----------------------

SCALE
1:24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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RELEASED
07-06-28

Diagram illustrating the underside of the D2576-3 step, showing grinding locations:

- GRIND FLUSH (4 PLACES)
- GRIND FLUSH
- GRIND FLUSH
- LOCATION RIDGE ON UNDERSIDE OF D2576
- GRIND FLUSH

Technical drawing of a circular component with the following annotations:

- DRILL PRIOR TO D2855 CAP INSTALLATION (2 PLACES)
- SEAL WITH SIKAFLEX-241/-291
- AN3-5A BOLT (1)
- AN980UD10L WASHER (1) (2 PLACES)
- SEE NOTE ii)
- D2855 CAP
- 0.40

D2579 SPACER

D2596 WEB (REF)

ALS7-1032-130 (REF)
(TYP 50 PLACES)

PERFORM THE FOLLOWING FOR #0.508 HOLES ONLY:

1. CHAMFER HOLE 0.050 X .45"
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

w/o 59038

37.50
DISTANCE TO AFT END OF D2598 WEB
3 7
1.750 1.750
REFER TO DETAIL A
8.750
17.375
26.000
34.188
57.313 (REF)
7 EQUAL SPACES
B.188 PITCH
38.0
91.500
190.0
(D2500-1)
Ø0.508 (TYP.)
(40 PLACES)
REFER TO DETAIL E

Figure 1: Typical cross-section of a 12' wide concrete curb and gutter. The diagram shows a cross-section of a curb and gutter assembly. Key dimensions include: a total width of 12.0 feet; a curb height of 5.985 feet; a gutter depth of 1.4 feet; a distance of 5.338 feet (reference) from the curb face to the centerline; a distance of 3.630 feet (reference) from the curb face to the centerline; a distance of 5.915 feet from the curb face to the centerline; a distance of 39.580 feet from the curb face to the centerline; a distance of 5.985 feet from the curb face to the centerline; a distance of 20.0 feet from the curb face to the centerline; a distance of 1.0 foot from the curb face to the centerline; a distance of 1.0 foot from the curb face to the centerline; a distance of 32.0 ± 1.0 feet from the curb face to the centerline. The diagram also shows a 12' wide concrete curb and gutter, a 1.4' deep gutter, and a 5.985' high curb. A note indicates 'DISTANCE FROM GUTTER TO DRILLING DETAIL'.

WELD AS PER DETAIL F

BLACK ANTI-SKID TO 0.5 ABOVE LOCATION RIDGE

BLACK ANTI-SKID TOP OF STEP TO 0.5 ABOVE BOTTOM EDGE

NO C'BORE NO PLUG

NO C'BORE NO PLUG

NO C'BORE NO PLUG

NO C'BORE NO PLUG

D3566-1

D3566-5

D3566-1

D3566-13

D3564-11

D3564-5

D3564-9

D3564-13

AN3C4A BOLT (1)

AN860C10L WASHER (1)

(50 PLACES)

REFER TO DETAIL G

0.5

1.5

1.5

H

P

P

P

P

P

P

P

8

i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB POWDER COAT ENTIRE ASSEMBLY GREEN (REF. 4.3.5.8) PER DART QSI 005 4.3 BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

ii) IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE WITH THE SPACER AT THIS LOCATION

DESIGN <i>PH</i>	DRAWN BY <i>PH</i>	 DART AEROSPACE LTD. MARKHAM, ONTARIO, CANADA
CHECKED <i>PH</i>	APPROVED <i>PH</i>	
DRAWING NO. D2580		REV. D
DATE 07.02.27		SHEET 3 OF 3
TITLE 205 SKIDTUBE ASSEMBLY		SCALE 1:24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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